

SOLAR ENERGY FACILITIES ZONING AMENDMENTS

1. In Section 10, Special Regulations, of the Zoning Bylaw, insert a new Section 10.06, to be entitled “Solar Energy Facilities” and to read as follows:

SECTION 10.06 — SOLAR ENERGY FACILITIES

10.06.01 PURPOSE STATEMENT

The purposes of the Solar Energy Facilities bylaw are to:

1. Enable the Town and its residents to install facilities to utilize renewable, solar energy.
2. Provide for the construction and operation of solar energy systems.
3. Provide standards for the placement, design, construction, monitoring, modification and removal of solar energy systems that address public safety, as well as minimize impacts on scenic, natural, and historic resources of the Town.
4. Set forth provisions that take precedence over all other sections when considering applications related to the construction, operation, expansion and/or repair of solar energy systems.
5. Protect the public health, safety and welfare of the Town and its residents.

10.06.02 DEFINITIONS

PHOTOVOLTAIC SYSTEM (also referred to as a Photovoltaic Installation):

A Solar Energy System that converts solar energy directly into electricity.

RATED NAMEPLATE CAPACITY:

The maximum rated output of electric power production of the photovoltaic system in watts of Direct Current (DC).

SOLAR ACCESS:

The access of a Solar Energy System to direct sunlight.

SOLAR COLLECTOR:

A device, structure or a part of a device or structure for which the primary purpose is to transform solar radiant energy into thermal, mechanical, chemical, or electrical energy.

SOLAR ENERGY:

Radiant energy received from the sun that can be collected in the form of heat or light by a Solar Collector.

SOLAR ENERGY SYSTEM:

A device or structural design feature, a substantial purpose of which is to provide daylight for interior lighting or provide for the collection, storage and distribution of solar energy for space heating or cooling, electricity generation, or water heating.

SOLAR ENERGY SYSTEM, GRID-INTERTIE:

A Solar Energy System that is connected to an electric circuit served by an electric utility.

SOLAR ENERGY SYSTEM, GROUND-MOUNTED:

A Solar Energy System that is structurally mounted to the ground and is not roof-mounted; may be of any size (small-, medium- or large-scale).

SOLAR ENERGY SYSTEM, LARGE-SCALE:

A Solar Energy System that occupies more than 40,000 square feet of surface area (equivalent to a rated nameplate capacity of approximately 250kW DC or greater).

SOLAR ENERGY SYSTEM, MEDIUM-SCALE:

A Solar Energy System that occupies more than 1,750 but less than 40,000 square feet of surface area (equivalent to a rated nameplate capacity of approximately 10 - 250 kW DC).

SOLAR ENERGY SYSTEM, OFF-GRID:

A Solar Energy System in which the circuits energized by the Solar Energy System are not electrically connected in any way to electric circuits that are served by an electric utility.

SOLAR ENERGY SYSTEM, ROOF-MOUNTED:

A Solar Energy System that is structurally mounted to the roof of a building or structure.

SOLAR ENERGY SYSTEM, SMALL-SCALE:

A Solar Energy System that occupies 1,750 square feet of surface area or less (equivalent to a rated nameplate capacity of approximately 10 kW DC or less).

10.06.03 APPLICABILITY

This section shall apply to all Solar Energy Systems proposed to be constructed after the effective date of this Section 10.06 as well as to physical modifications to existing Solar Energy Systems that materially alter the type, configuration, or size of such systems or other equipment.

10.06.04 GENERAL REQUIREMENTS

- A. The Planning Board shall be the special permit granting authority for all special permits required for a Solar Energy System under the Zoning Bylaw. The Planning Board shall be the site plan review authority for all site plan

approvals required for a Solar Energy System under the Zoning Bylaw.

- B. A building permit must be issued prior to the installation of any Solar Energy System.
- C. All Solar Energy Systems shall meet approval of local building code officials, consistent with Massachusetts Building Code. All Solar Energy Systems shall comply with the current edition of the National Electrical Code.
- D. When solar storage batteries are included as part of the solar collection system, they must be placed in a secure container or enclosure meeting the requirements of the Massachusetts State building Code when in use, and, when no longer used, shall be disposed of in accordance with all local, state and federal regulations.
- E. Except as provided for in Section 10.06.08 below, if a Solar Energy System ceases to perform its originally intended function for more than 12 consecutive months, the property owner shall remove the Solar Collectors, mounts as well as any associated equipment and facilities by no later than 90 days after the end of that 12 month period.
- F. All applications for a Solar Energy System building permit in the Heritage District must first obtain approval from the Boylston Historic Commission. Plans submitted to the Boylston Historic Commission shall be to the same specifications as required in this Section 10.06.
- G. The construction and operation of all Solar Energy Systems shall be consistent with all applicable local, state and federal requirements, including but not limited to all applicable safety, construction, electrical and communication requirements. All buildings and fixtures forming part of a Solar Energy System shall be constructed in accordance with the State Building Code.

10.06.05 DESIGN STANDARDS FOR ROOF- AND BUILDING-MOUNTED SOLAR ENERGY SYSTEMS

- A. The height of a Solar Collector on a pitched roof may not extend more than 3 feet above the top of the roof surface. Rooftop Solar Collectors shall not extend beyond the edge of the roof's surface area.
- B. On structures with flat roofs located in non-residential zones, the height of the Solar Collectors shall not exceed 12 feet above the surface of the roof's surface or 10 feet above the structure's perimeter parapet wall.

- C. At full tilt, building mounted Solar Collectors shall not extend more than 5 feet from the wall to which they are attached and must still conform to the setback requirements in that district.

10.06.06 SPECIAL PERMIT PROVISIONS FOR SOLAR ENERGY SYSTEMS

- A. Applications for a special permit required under Section 4.02.07 of the Zoning Bylaw for a Solar Energy System shall be granted in accordance with M.G.L. c. 40A. §9 and following provisions of this Section 10.06.06.
- B. The Planning Board shall allow a consolidated hearing and consolidated notice requirements for proposed Solar Energy Systems requiring both a special permit and site plan review.
- C. Approval Criteria - In reviewing any application for a special permit for a Solar Energy System, the Planning Board shall give due consideration to promoting the public health, safety, convenience and welfare; shall encourage the most appropriate use of land; and shall permit no building or use that is injurious, noxious, offensive or detrimental to its neighborhood. Before the Planning Board may issue such a special permit, it shall make the following findings:
 - 1. The Solar Energy System conforms to the provisions of this Section 10.06.
 - 2. The Solar Energy System will not be detrimental to the neighborhood or the Town.
 - 3. Environmental features of the site and surrounding areas are protected.
 - 4. The proposed use is in harmony with the general purpose and intent of the Zoning Bylaw.
- D. Any special permit issued for a Solar Energy System shall be subject to such conditions and safeguards as the Planning Board may prescribe.

10.06.07 SITE PLAN REVIEW PROVISIONS FOR SMALL- AND MEDIUM-SCALE SOLAR ENERGY SYSTEMS

- A. Site Plan Review Procedures:

Small- and Medium-Scale Solar Energy Systems subject to site plan review pursuant to Section 4.02.07 of the Zoning Bylaw shall be governed by the procedures set forth in Section 10.03.02 of the Zoning Bylaw, including

notification requirements, and the additional requirements set forth in this Section 10.06.07.

B. Site Plan Document Requirements:

Pursuant to the site plan review process, the applicant shall provide a site plan showing:

1. Property lines and physical features, including roads, for the project site;
2. Proposed changes to the landscape of the site, grading, vegetation clearing and planting, exterior lighting, screening vegetation or structures;
3. Blueprints or drawings of the Solar Energy System showing the proposed layout of the system, any potential shading from nearby structures, the distance between the proposed Solar Collector and all property lines and existing on-site buildings and structures, and the tallest finished height of the Solar Collector;
4. Documentation of the major system components to be used, including the panels, mounting system, and inverter;
5. Name, address, and contact information for proposed system installer;
6. Name, address, phone number and signature of the applicant and property owner;
7. The name, contact information and signature of any agents representing the applicant; and
8. Zoning district designation for the parcel(s) of land comprising the project site.

C. Site Plan Review Design Standards:

1. Utility Notification - No Grid-Intertie Solar Energy System shall be installed until evidence has been provided to the Planning Board that the Boylston Municipal Light Company has been informed of the owner's or operator's intent to install an interconnected customer-owned generator. Off-Grid Solar Energy System shall be exempt from this requirement.
2. Utility Connections - Reasonable efforts, as determined by the Planning Board, shall be made to place all utility connections from the Solar Energy System underground, depending on appropriate soil conditions, shape, and topography of the site and any requirements of the utility provider. Electrical transformers for utility interconnections may be above ground if required by the utility provider.

3. Safety - The Solar Energy System owner or operator shall provide a copy of the site plan review application to the Fire Chief. All Solar Energy Systems must be in compliance with Section 605.11 of the 2012 International Fire Code and Section 11.12 of NFPA 1. All means of shutting down the Solar Energy System shall be clearly marked.
4. Visual Impact - Reasonable efforts, as determined by the Planning Board, shall be made to minimize visual impacts by preserving natural vegetation, screening abutting properties, or other appropriate measures.
5. Setback Requirements - The location of the Solar Energy System shall meet all applicable setback requirements of the zoning district in which it is located; provided, however, that any Medium-Scale Ground Mounted Solar Energy System located on a lot located in or abutting a residential district or abutting a conservation, recreation, or residential use shall comply with Section 10.06.08.C.9.
6. Lot Coverage - As an accessory structure, no Solar Energy System may, by adding its square footage to other existing structures on the property, exceed the lot coverage percentage requirements in that district.
7. Residential Zoning Districts - In residential districts, Ground-Mounted Solar Energy Systems must be located in the side or rear yard unless the Building Inspector determines that the Solar Energy System and all appurtenant structures and equipment will not be visible from the street nor from the dwellings of abutters.
8. Height Restrictions - The height of Ground-Mounted Solar Energy Systems shall not exceed 15 feet, except in residential districts where the height shall not exceed 10 feet.
9. Land Clearing, Soil Erosion and Habitat Impacts - Clearing of natural vegetation shall be limited to what is necessary for the construction, operation and maintenance of Ground-Mounted Solar Energy Systems or as otherwise prescribed by applicable law.

10.06.08 SITE PLAN REVIEW PROVISIONS FOR LARGE-SCALE SOLAR ENERGY SYSTEMS

A. Site plan review Procedures:

Large-Scale Solar Energy Systems subject to site plan review pursuant to Section 4.02.07 of the Zoning Bylaw shall be governed by the procedures set forth in Section 10.03.02 of the Zoning Bylaw, including notification

requirements, and the additional requirements set forth in this Section.

B. Site Plan Document Requirements:

Pursuant to the site plan review process, the applicant shall provide a site plan showing:

1. Property lines and physical features, including roads, for the project site;
2. Proposed changes to the landscape of the site, grading, vegetation clearing and planting, exterior lighting, screening vegetation or structures;
3. Blueprints or drawings of the Large-Scale Solar Energy System showing the proposed layout of the system, any potential shading from nearby structures, the distance between the proposed Solar Collector(s) and all property lines and existing on-site buildings and structures, and the tallest finished height of any Solar Collector;
4. Documentation of the major system components to be used, including the panels, mounting system, and inverter;
5. One or three line electrical diagram detailing the Large-Scale Solar Energy System, associated components, and electrical interconnection methods, with all Massachusetts Electric Code (527 CMR 12.00) compliant disconnects and overcurrent devices;
6. Name, address, and contact information for proposed system installer;
7. Name, address, phone number and signature of the applicant and property owner;
8. The name, contact information and signature of any agents representing the applicant;
9. Zoning district designation for the parcel(s) of land comprising the project site.
10. Documentation of actual or prospective access and control of the project site;
11. An operation and maintenance plan;
12. Proof of liability insurance; and
13. A project development timeline.

C. Site plan review Design and Operation Standards:

1. Site Control - The applicant shall submit documentation of actual or prospective access and control of the project site sufficient to allow for construction and operation of the proposed Large-Scale Solar Energy System.

2. Operation & Maintenance Plan - The applicant shall submit a plan for the operation and maintenance of the Large-Scale Solar Energy System, which shall include measures for maintaining safe access to the Solar Energy System, stormwater controls, as well as general procedures for operational maintenance of the Large-Scale Solar Energy System.
3. Utility Notification - No Grid-Intertie Solar Energy System shall be installed until evidence has been provided to the Planning Board that the Boylston Municipal Light Company has been informed of the owner's or operator's intent to install an interconnected customer-owned generator. Off-Grid Solar Energy Systems shall be exempt from this requirement.
4. Lighting - Lighting of Large-Scale Solar Energy Systems shall be consistent with local, state and federal law. Lighting of other parts of the Solar Energy System, such as appurtenant structures, shall be limited to that required for safety and operational purposes, and shall be reasonably shielded from abutting properties. Where feasible, lighting of the Large-Scale Solar Energy System shall be directed downward and shall incorporate full cut-off fixtures to reduce light pollution.
5. Signage - Signs on site of a Large-Scale Solar Energy System shall comply with the Town's Sign Bylaw. A sign consistent with the Town's Sign Bylaw shall be required to identify the owner and provide a 24-hour emergency contact phone number. Solar Energy Systems shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the Large-Scale Solar Energy System.
6. Utility Connections - Reasonable efforts, as determined by the Planning Board, shall be made to place all utility connections from the Large-Scale Solar Energy System underground, depending on appropriate soil conditions, shape, and topography of the site and any requirements of the utility provider. Electrical transformers for utility interconnections may be above ground if required by the utility provider.
7. Emergency Services - The Large-Scale Solar Energy System owner or operator shall provide a copy of the project summary, electrical schematic, and site plan to the Fire Chief. Upon request, the owner or operator shall cooperate with local emergency services in developing an emergency response plan. All means of shutting down the Large-Scale Solar Energy System shall be clearly marked. The owner or operator shall identify a responsible person for public inquiries throughout the life of the Large-Scale Solar Energy System.

8. Land Clearing, Soil Erosion and Habitat Impacts - Clearing of natural vegetation shall be limited to what is necessary for the construction, operation and maintenance of the Large-Scale Solar Energy System or otherwise prescribed by applicable law.

9. Setbacks - Large-Scale Solar Energy Systems shall be subject to the following setback requirements, unless a more restrictive setback requirement is provided in the underlying zoning district, in which case the more restrictive setback requirement shall govern:

Front Yard: The front yard shall have a setback depth of at least 25 feet provided, however, that where the lot is located in or abuts a residential district or abuts a conservation, recreation, or residential use, the front yard shall not be less than 100 feet;

Side Yard: Each side yard shall have a depth of at least 25 feet provided, however, that where the lot is located in or abuts a residential district or abuts a conservation, recreation, or residential use, the side yard shall not be less than 100 feet;

Rear Yard: The rear yard shall have a depth of at least 25 feet provided, however, that where the lot is located in or abuts a residential district or abuts a conservation, recreation, or residential use, the rear yard shall not be less than 100 feet.

10. Visual Impact — Where a Large-Scale Solar Energy Systems will abut residential uses, there must be increased consideration for mitigating visual impact to the residential use. For example, increased setbacks, visual screening that does not impair solar access, or sound buffering may be required.

11. Glare — Where Solar Collectors could pose sun glare to abutting properties or roadways, additional screening or other public safety measures may be required.

12. Appurtenant Structures — All appurtenant structures to a Large-Scale Solar Energy System shall be subject to reasonable regulations concerning the bulk and height of structures, building coverage requirements, lot area, setbacks, sound or noise level generated by equipment, open space and parking. All such appurtenant structures, including but not limited to, equipment shelters, storage facilities, transformers, and substations, shall be architecturally compatible with each other. Whenever reasonable, structures shall be screened from

view by vegetation and/or joined or clustered to avoid adverse visual impacts.

D. Monitoring and Maintenance:

1. Solar Energy System Installation Conditions - The Large-Scale Solar Energy System owner or operator shall maintain the facility in good condition. Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to the Fire Chief. The owner or operator shall be responsible for the cost of maintaining the Large-Scale Solar Energy Systems and any access road(s), unless accepted as a public way.
2. Modifications - All material modifications, as determined by the Building Inspector, to a Large-Scale Solar Energy System made after issuance of the required building permit shall require approval by the Planning Board.

E. Abandonment or Decommissioning:

1. Removal Requirements:

Any Large-Scale Ground-Mounted Solar Energy System which has reached the end of its useful life or has been abandoned consistent with Section 10.06.08.E.2 shall be removed. The owner or operator shall physically remove the Solar Energy System and all appurtenant structures and equipment no more than 150 days after the date of discontinued operations. The owner or operator shall notify the Planning Board by certified mail of the proposed date of discontinued operations and plans for removal.

Decommissioning shall consist of:

- a. Physical removal of the Solar Collectors, mounts, structures, equipment, security barriers and transmission lines from the site.
- b. Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.
- c. Stabilization or re-vegetation of the site as necessary to minimize erosion. The Planning Board may allow the owner or operator to leave landscaping or designated below-grade foundations in order to minimize erosion and disruption to vegetation.

2. Abandonment:

Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, a Large-Scale Solar Energy System shall be considered abandoned when it fails to operate for more than one year without the written consent of the Planning Board. If the owner or operator of the Solar Energy System fails to remove the Solar Energy System in accordance with the requirements of this section within 150 days of abandonment or the proposed date of decommissioning, the Town shall have the right, after the receipt of an appropriate court order or pursuant to a grant of permission from the owner, to enter and remove an abandoned, hazardous, or decommissioned Large-Scale Solar Energy System. As a condition of site plan approval, the applicant and owner shall agree to allow entry to remove an abandoned or decommissioned Large-Scale Solar Energy System.

F. Financial Surety:

Applicants proposing Large-Scale Solar Energy Systems shall provide a form of surety, either through escrow account, bond or otherwise, to cover the cost of removal in the event the Town must remove the Solar Energy System and remediate the landscape, in an amount and form determined to be reasonable by the Planning Board, but in no event to exceed more than 125 percent of the cost of removal and compliance with the additional requirements set forth herein, as determined by the applicant. Such surety will not be required for municipally or state-owned facilities. The applicant shall submit a fully inclusive estimate of the costs associated with removal, prepared by a qualified engineer, including a mechanism for calculating increased removal costs due to inflation acceptable to the Planning Board.

2. In Section 4.01, Basic Regulations, of the Zoning Bylaw, add the following row to the existing table:

SPR	Use allowed by SITE PLAN REVIEW issued by the Planning Board, pursuant to Section 10.06. For other site plan review requirements, see Section 10.03.
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3. In Section 4.02.07, Schedule of Use Regulations, of the Zoning Bylaw, add the following:

	BOYLSTON ZONING DISTRICTS													
Use:	RR	R	GR	VB	HB	C	H	IP	I	MUI	FBD	NB	RB	Notes
4.02.07 OTHER (UNCLASSIFIED)														
<i>PRINCIPAL USE</i>														
MEDIUM-SCALE GROUND-MOUNTED SOLAR ENERGY SYSTEM	SP# SPR	SP# SPR			SP# SPR	SP# SPR	SP# SPR	SPR	SPR	SPR	SPR	SPR	SPR	Special permit issued pursuant to Section 10.06
LARGE-SCALE GROUND-MOUNTED SOLAR ENERGY SYSTEM	SP# SPR							SP# SPR	SP# SPR	SP# SPR	SP# SPR			Special permit issued pursuant to Section 10.06
<i>ACCESSORY USE</i>														
SMALL-SCALE ROOF-MOUNTED SOLAR ENERGY SYSTEM	Y	Y	Y	Y	Y	Y	SPR	Y	Y	Y	Y	Y	Y	
MEDIUM-SCALE ROOF-MOUNTED SOLAR ENERGY SYSTEM	SPR				SPR	SPR		SPR	SPR	SPR	SPR	SPR	SPR	
SMALL-SCALE GROUND-MOUNTED SOLAR ENERGY SYSTEM	Y	Y LIMIT 1,000 SQ. FT	Y LIMIT 500 SQ. FT	Y LIMIT 1,000 SQ. FT	Y	Y	SPR LIMIT 1,000 SQ.FT	Y	Y	Y	Y	Y	Y	
MEDIUM-SCALE GROUND-MOUNTED SOLAR ENERGY SYSTEM	SP# SPR				Y	Y		Y	Y	Y	Y	Y	Y	Special permit issued pursuant to Section 10.06